



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,461	03/17/2006	Tsutomu Natsuhara	P28462	6991
7055 7590 10/18/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER MULLINS, BURTON S	
			ART UNIT 2834	PAPER NUMBER
			NOTIFICATION DATE 10/18/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

# Office Action Summary

Application No.

10/553,461

Applicant(s)

NATSUHARA ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/06 7/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 06 July 2007 and 04 January 2006 have been considered by the examiner.

### ***Response to Amendment***

3. The preliminary amendment filed 17 October 2005 has been entered.

### ***Specification***

4. The replacement abstract of the disclosure as filed 04 January 2006 does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. (WO 00/01054). Wright, which incorporates the brushless motor of Archer, US 5,006,744, teaches a brushless motor having a stator 17, a rotor 12 (see Archer, Fig.1) and a circuit board 104 (Wright, Fig.1) for controlling rotation of said rotor, wherein the stator has iron cores (i.e., stator teeth 34 in Archer; Fig.1) and coils 32 wound around the iron cores (Archer, Fig.1), further comprising switching elements (transistors) 110 (Wright, Fig.1) mounted to said circuit board for turning on and off electric power to be supplied to the coils of said stator (Wright, p.1:12-17), and a heat-radiating member (endshield) 102 with fins 132 (Wright; Fig.2) fixed to said iron cores of said stator (by bolts, Wright p.6:10-12; Fig.2) .

Regarding claim 2, two bearings are supported rotatably at two ends of a shaft of said rotor (inherent), and one of the bearings is supported by said heat-radiating member 102 (in shaft opening 148, Wright p.6:5-6).

Regarding claim 3, Wright's switching elements 110 are contacted to said heat-radiating member 102 via thermal pad 112 (p.5:1-18; Fig.2).

Regarding claim 4, Wright's bolts secure the endshield 102 to the stator cores (Fig.2; p.6:9-12).

Art Unit: 2834

Regarding claim 6, the 'biasing member' can be considered a bolt (Fig.2; p.6:9-12), which compresses the end shield 102 and thermal pad 112 against the transistors 110 (Figs.1&2) during assembly, when the end shield is attached to the stator.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (WO 00/01054) in view of Kurome et al. (US 4,156,821). Wright does not teach a that each iron core has a bump protruding from an outside plane thereof, and the bump has a hole for screwing said one of said iron cores to said heat- radiating member.

Kurome teaches a stator core including a bump (protrusions) C protruding from an outside plane thereof (Figs.3,5&7), and the bump has a hole for screwing (using bolts) said one of said iron cores to said heat- radiating member (i.e., brackets H; c.6:48-c.7:13). The protrusions and bolts provide a means fixing the bracket to the stator core (c.3:38-44).

It would have been obvious to modify Wright and provide bumps per Kurome as a means of fixing the bracket to the stator core.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (WO 00/01054) in view of Yu-fang et al. (US 4,952,828). Wright does not teach a cooling fan for

Art Unit: 2834

cooling said switching elements and said coils, said cooling fan being fixed to a shaft of said rotor.

Yu-fang teaches a brushless generator including a rotor 7 having a shaft 5 and an interior fan 15 attached to the shaft (Fig.1) to improve heat dissipation inside the generator (c.2:26-32).

It would have been obvious to modify Wright and provide a cooling fan fixed to the rotor shaft per Yu-fang since this would have improved heat dissipation inside the machine.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029.

The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm

11 October 2007